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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Title

SYSTEM AND METHOD FOR

DETERMINING COMPONENTS
OF A BLENDED PLASTIC MATERIAL

Application No.

Not yet assigned

Applicants

Ernst, et al.

Filing Date
Art Unit

March 9, 2004 Not yet assigned

Examiner:

Not yet assigned

Attorney Docket No.

29765.04000

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION OF ALAN C. ERNST

Sir:

{RRL0511.DOC;1}

I, Alan C. Ernst, a named inventor in the above application. I have more than thirty years experience working in the plastics industry. For sixteen years, I served as Vice President of Manufacturing and Engineering of a major manufacturer of extruded plastic products. For over twenty five years, I have been directly involved with the use of recycled plastic materials.

The present invention can increase the use of post-consumer recycled plastics ("PCR") and reduce the volume of plastics in the waste stream (landfill). The present invention promotes the use of increased percentages of PCR in many products by more closely matching the blended material properties to the finished product physical properties requirements.

The most recent statistics (2002) show overall U.S. plastic bottle recycling rates were at 21%. Although it was a record year, the recycling growth rates have been flattening for the last several years in part due to slowing demand for PCR. One PCR grade, polyethylene, used in recyclable milk and detergent bottles, is typically 10-35% lower in cost than the virgin resins they displace. This provides plastic product manufacturers an economic incentive to incorporate maximum PCR content while maintaining product quality. Manufacturers currently limit their PCR content for many products due to the low quality and variability of the incoming material streams physical properties. The systems and methods of the present invention allow for the

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Declaration of Alan C. Ernst Filing Date: March 9, 2004 Attorney Docket Number: 29765.04000 Express Mail No.: EV 205191347 US

accurate real-time measurement of a material's physical properties; calculate the appropriate additive components; and determine preferred percentages of PCR. Accordingly, the present invention promotes increased PCR content, lower manufacturing costs and increased demand for PCR materials. As increased PCR usage and recycling rates grow more PCR will be diverted from the waste stream (landfills).

In addition, the present invention can aid in reducing the volume of plastics entering the waste stream by "lightweighting" (i.e. reducing the amount of plastic in a product).

Manufactures who use only virgin plastic materials can benefit by "lightweighting" their products. The methods of the present invention may also be applied in real-time to processes and products resulting in more closely matching the material properties to the finish product physical properties requirements, allowing the manufacture to reduce the amount of resin used in the product.

In these ways, I submit that the present invention will materially enhance the quality of the environment of mankind by contributing to the restoration or maintenance of the basic lifesustaining natural elements.

I am aware that the willful false statements and the like are made punishable by fine or imprisonment or both, under § 101 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above application or any patent resulting thereof, and I hereby declare that the foregoing statements of fact set forth above are true.

Bv-

Alan C. Ernst

March 9, 2004

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•	Docket No.	
	29765.04000	

Declaration and Power of Attorney For Patent Application **English Language Declaration**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original. first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for

which a patent is sought on the invi	ention entitled
SYSTEM AND METHOD FOR DETER	MINING COMPONENTS OF A PLASTIC MATERIAL
the specification of which	
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and was amended on	The state of the s
	(if applicable)
I acknowledge the duty to disclose 1.56, including for continuation-in between the filling date of the prior continuation-in-part application. I hereby claim foreign priority betapplication(s) for patent, or plant application which designated at least and have also identified.	and understand the contents of the above identified specification, by any amendment referred to above. Information which is material to patentability as defined in 37 CFR part applications, material information which became available application and the national or PCT international filing date of the nefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign breeder's rights certificate(s), or 365(a) of any PCT International asst one country other than the United States of America, listed below, by checking the box, any foreign application for patent, is certificate(s), or any PCT international application having a filing on which priority is claimed.
Prior Foreign Application(s)	Priority Not Claimed
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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)
Robert R. Lech (Reg. No. 37,169)

Send Correspondence to:

Robert R. Lech, Esq.

Calfee, Halter & Griswold LLP 21 East State Street, Suite 1100 Columbus, OH 43215-4243

Direct Telephone Calls to: (name and telephone number)

Robert R. Lech - 614-621-7101.

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	Second inventor's signature					•	
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Page 1 of 3

Docket No. 29765.04000

Declaration and Power of Attorney For Patent Application English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and dtizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original,

first and joint inventor which a patent is sou	r (if plural names are ght on the invention e	listed below) of the subject matter wi entitled	hich is claimed and for
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Page 3 of 3

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